

REMARKS

Claims 1-43 are pending.

Claim 43 is withdrawn from consideration.

Claims 40 and 41 are allowed.

Claims 2-4, 6-13, 15-17 and 19-26 are objected to.

Claims 1, 5, 14, 18, 27-39 and 42 are rejected.

The non-final office action dated Dec. 11, 2008 indicates that the specification is objected to for failing to provide antecedent basis for a “computer program product” and a “computer readable medium.” This objection has been overcome by the addition of paragraph 0018A. Support for this added paragraph is provided by original claims 27 and 43.

The non-final office action also indicates that claims 27-39 and 42 are rejected under 35 U.S.C. §101 for being directed to non-statutory subject matter. This rejection has been rendered moot by the amendments above. Amended claims 27 and 42 now recites an article comprising a computer readable medium and a computer-program product residing on the computer readable medium.

Claim 42 has also been amended so as not to recite an output device. The components of the computer program product have not been changed. Since claim 42 was not rejected under section ‘102 or ‘103, it should now be allowable.

Claim 41 is allowed, but has been amended to remove the feature “output device.” The components of the processor have not been changed. Therefore, claim 41 should remain allowed.

The non-final office action indicates that claims 2, 6, 15, 19, 28 and 32 contain allowable subject matter, but would be allowed if rewritten in independent form. Claim 2 has been amended to include the subject matter of original base claim 1. Therefore, amended claim 2 and its dependent claims 3-4 should be allowed.

Claim 6 has been amended to include the subject matter of original base claim 1 and original intervening claim 5. Therefore, amended claim 6 and its dependent claims 7-10 should be allowed.

The non-final office action indicates that claims 1, 5, 14, 18, 27 and 31 are rejected under 35 U.S.C. §102(b) as being anticipated by Miyazaki U.S. Patent No. 7,365,780. Claims 1, 14 and 27 are base claims. The '102 rejections of the original base claims are respectfully traversed.

Miyazaki discloses a camera 10 capable of picking up a plurality of successive pictures in a continuous shoot mode (col. 1, lines 8-13). In the continuous shoot mode, the camera 10 picks up a plurality of frames and stores them in main memory 24. The frames are stored in a particular manner determined by the mode elected on a mode dial 20 and the half-stroke position of a release button 22 (col. 3, lines 58+).

Figures 13-15 are cited in the '102 rejections. However, these figures do not appear particularly relevant, as they disclose an embodiment for controlling lens opening or shutter speed in order to vary exposure during continuous shoot mode (col. 16, lines 17-26). EV refers to a step by which the exposure value is corrected as a plurality of frames are being captured (col. 16, lines 19-22). For example, a value of $-4\Delta EV$ "causes the exposure level ΔEV to be corrected by four steps in the negative direction from an adequate exposure value corresponding to photometric data. Subsequently, the controller 74 causes the camera 70 to pick up the scene with the exposure level of $-4\Delta EV$ and causes the resulting image data to be written to the main memory 24 " (col. 17, lines 1-8).

The office action alleges that EV refers to a luminance value. However, Miyazaki doesn't support the allegation. ΔEV refers to an exposure level (see also col. 18, lines 11-12). Scenes are captured at difference exposure levels.

The office action also cites step 1520 in Figure 15 and a passage at col. 18, lines 4-22. However that passage only states that multiple scenes are being captured at different exposure levels.

Figures 13-15 are silent about the values of the pixels actually detected by the CCD sensor 14. Those values are determined by the scenes being captured by the CCD sensor 14.

The only image processing disclosed by Miyazaki appears to be performed by a digital signal processing circuit 44. The digital signal processing circuit 44 “executes gamma correction with the R, G and B image data in order to correct the tonality and levels thereof. In addition, the signal processor 44 adjusts the white balance of the image data” (col. 4, lines 46+).

Thus, Miyazaki does not teach or suggest the image processing recited in base claims 1, 14 and 27. Therefore, base claims 1, 14 and 27 should be allowed over Miyazaki.

Nevertheless, base claims 1, 14 and 27 have been amended for clarity. Amended claim 1 recites a method for correcting an image frame. The method comprises:

- receiving a first image frame of a scene from a digital sensor;
- receiving a first plurality of image frames from the digital sensor exposed to a dark current level;
- receiving a second plurality of image frames from the digital sensor exposed to a reference intensity level;
- computing a difference between the first plurality of images and the second plurality of images over a stable region of interest; and
- using the difference to correct the first image frame for light scattering.

Support for the first plurality of frames is provided at p. 5, lines 5+. Support for the second plurality of frames is provided at p. 5, line 1.

Similar amendments have been made to base claims 14 and 27.

Miyazaki doesn't teach or suggest computing a difference between a plurality of frames exposed to dark current level and a plurality of frames exposed to a reference intensity level, and using that difference to correct a frame of a scene for light scattering. For this additional reason, base claims 1, 14 and 27 should be allowed over Miyazaki.

Claim 43, which was withdrawn from consideration, has been cancelled.

The amendments above are believed to place the application in condition for allowance.

In the amendments above, one independent claim (43) and five total claims have been cancelled. Two dependent claims (2 and 6) have been rewritten in independent form. Therefore, an added claims fee for one independent claim has been incurred. The added claims fee of \$220 will be paid by credit card via EFS.

The Examiner is encouraged to contact the undersigned to discuss any remaining issues prior to mailing another office action.

Respectfully submitted,

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Date: May 11, 2009